

What is claimed is:

1. Drive arrangement for a motor vehicle roof with a movable roof part, comprising:

a carrier element adapted to be connected to the movable roof part;

a drive element for displacing the carrier element along a given path of motion, the drive element engaging an intermediate pivot lever which is adapted to apply a drive force applied by the drive element to the carrier element via a driver depending on a pivot position of the intermediate lever occurring at the time, the drive element being constructed in a manner causing said pivot position of the intermediate lever to be determined by a position of the carrier element along the path of motion occurring at the time.

2. Drive arrangement as claimed in claim 1, wherein the driver is movably guided in the direction perpendicular to a direction of motion of the drive element relative to the carrier element.

3. Drive arrangement as claimed in claim 2, wherein the driver is a guide pin engaged in a guide path in the carrier element.

4. Drive arrangement as claimed in claim 2, wherein the drive element engages a first guide point on the intermediate pivot lever which is guided in a first guideway that is adapted to be provided on a vehicle body.

5. Drive arrangement as claimed in claim 4, wherein a second guide point is provided on the intermediate pivot lever, and where the second guide point is positioned in a direction perpendicular to the direction of motion of the drive element at a location which is determined by the position of the carrier element along the path of motion of the carrier element.

20220720 13:02:00

6. Drive arrangement as claimed in claim 5, wherein the intermediate pivot lever is guided at the second guide point by a second guideway that is adapted to be provided on the vehicle body, the guideways being adapted to control pivoting motion of the intermediate lever.

7. Drive arrangement as claimed in claim 6, wherein the first guideway and the second guideway run parallel to each other over one section thereof and divergently relative to each other over another section thereof.

8. Drive arrangement as claimed in claim 6, further comprising a lock element mounted on the carrier element and which, in the direction perpendicular to the direction of motion of the drive element, forms a contact surface for the second guide point of the intermediate pivot lever, the lock element being actuated to clear the second guide point in the direction perpendicular to the direction of motion of the drive element when the carrier element reaches a predetermined position.

9. Drive arrangement as claimed in claim 8, wherein the lock element is pre-stressed into the position which blocks the second guide point, actuation of the lock element taking place by displacement of the lock element in the direction of motion of the drive element.

10. Drive arrangement as claimed in claim 8, wherein a stop element that is adapted to be mounted on a vehicle body is provided for actuating the lock element in the end area of the carrier element to release the second guide point; and wherein a guide cam that is adapted to be mounted on a vehicle body is provided for the second guide point in an area of the stop element.

11. Drive arrangement as claimed in claim 10, wherein the guide cam for the second guide point is formed by a contact surface.

20220322 10082133-022602

12. Drive arrangement as claimed in claim 5, wherein the driver lies between the two guide points.

13. Drive arrangement as claimed in claim 1, wherein the drive element is a compressively-stiff cable.

14. Drive arrangement as claimed in claim 1, wherein the carrier element is guided along a guide rail.

15. Drive arrangement as claimed in claim 1, wherein the carrier element is a connecting rod which is adapted to be coupled to a body-mounted point and is also (adapted to be) coupled to a roof part which is pivotable, in an installed state of the drive arrangement, into a stowage space of a motor vehicle, and wherein the connecting rod is pivotable along a path which is dictated by the body-mounted point.

16. Drive arrangement as claimed in claim 15, wherein the driver is movably guided in the radial direction on the connecting rod.

17. Drive arrangement as claimed in claim 16, wherein the driver is a guide pin which is disposed in a guide slot in the connecting rod.

18. Drive arrangement as claimed in claim 16, wherein a radial position of a guide point of the intermediate lever is determined by the pivot position of the connecting rod, the driver lying between the application point of the drive element and the guide point.

19. Drive arrangement as claimed in claim 18, wherein a radial distance of the application point of the drive element to the intermediate lever from the body-mounted point of the connecting rod is constant over a range of pivoting movement of the connecting rod.

20220720 13:02:50

20. Drive arrangement as claimed in claim 19, wherein the drive element engages the intermediate lever via a slider, the slider being guided in an arc-shaped guideway that has a center point which is the body-mount point to which the connecting rod is adapted to be coupled.

21. Drive arrangement as claimed in claim 15, wherein the engagement point of the drive element on the intermediate lever lies radially farther to the outside than the driver.

22. Drive arrangement as claimed in claim 15, wherein the radial distance of the guide point of the intermediate lever from the body-mounted point to which the connecting rod is adapted to be coupled varies with the pivot position of the connecting rod.

23. Drive arrangement as claimed in claim 22, wherein the radial distance of the guide point of the intermediate lever from the body-mounted point to which the connecting rod is adapted to be coupled decreases at the end of the pivoting motion of the connecting rod and is otherwise substantially constant.

24. Drive arrangement as claimed in claim 18, wherein the guide point of the intermediate lever is guided in a guideway which has a coupling point that is adapted to be mounted on a vehicle body, the guideway running around a coupling point of the connecting rod at a radius which depends on the pivot angle of the connecting rod.

25. Drive arrangement as claimed in claim 18, wherein a lock element is mounted on the connecting rod and which forms a contact surface for the guide point of the intermediate lever in a radial direction, the lock element being actuated to clear the guide point in the radial direction depending on the pivot position of the connecting rod.

26. Drive arrangement as claimed in claim 25, wherein the lock element is pre-stressed into the position which blocks the guide point.

27. Drive arrangement as claimed in claim 25, wherein the lock element has an actuation direction which is in an essentially tangential direction relative to the path of motion.

28. Drive arrangement as claimed in claim 25, wherein a stop element that is adapted to be mounted on a vehicle body is provided for actuating the lock element in the end area of the carrier element to release the guide point; and wherein a guide cam for the guide point that is adapted to be mounted on a vehicle body is provided in an area of the stop element.

29. Drive arrangement as claimed in claim 28, wherein a guide curve for the guide point has a decreasing radius with respect to the body-mounted point to which the connecting rod is adapted to be coupled.

30. Drive arrangement as claimed in claim 29, wherein the guide cam for the guide point is a contact surface.

31. Drive arrangement as claimed in claim 1, wherein a bearing lever is provided which is adapted to be coupled to a point on a vehicle body, which has a hinge that is adapted to be coupled to movable roof parts, and which forms a four-bar mechanism arrangement for a pivot element together with the connecting rod.

32. Motor vehicle comprising a vehicle body, at least one movable roof part for closing and opening a roof opening of the vehicle body, and a drive arrangement having a carrier element adapted to be connected to the movable roof part; a drive element for displacing the carrier element along a given path of motion, the drive element engaging an intermediate pivot lever which is adapted to apply a drive force applied by the drive element

20220922 13:02:02

to the carrier element via a driver depending on a pivot position of the intermediate lever occurring at the time, the drive element being constructed in a manner causing said pivot position of the intermediate lever to be determined by a position of the carrier element along the path of motion occurring at the time.

33. Motor vehicle as claimed in claim 32, wherein the carrier element is a connecting rod which is coupled to a body-mounted point and is also coupled to a roof part which is pivotable into a stowage space of the motor vehicle body, and wherein the connecting rod is pivotable along a path which is dictated by the body-mounted point.

34. Motor vehicle as claimed in claim 33, wherein the roof part which is pivotable is a roof cassette into which said at least one movable roof part is rearwardly displaceable from a position thereof which closes the motor vehicle roof to clear the roof opening, and wherein the stowage space is located in the rear of the motor vehicle.

35. Motor vehicle as claimed in claim 32, wherein a guide point of the intermediate lever is guided in a guideway which has a coupling point mounted on the vehicle body, the guideway running around a coupling point of the connecting rod at a radius which depends on the pivot angle of the connecting rod.

36. Motor vehicle as claimed in claim 35, wherein a stop element is mounted on the vehicle body for actuating the lock element in the end area of the carrier element to release the guide point; and wherein a guide cam for the guide point is mounted on the vehicle body in an area of the stop element.

20220713 022602